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ABSTRACT

This report was produced by a committee appointed by the Council for Higher Education of the Ministry of Education and Culture (Israel) to perform the following three major tasks: (1) review all facets of post-secondary education excluding university activities; (2) suggest principles on which to base the development of post-secondary education; and (3) make long- and short-run suggestions for planning and directing various types of post-secondary education. Other major efforts were to initiate discussion regarding communication between different educational levels; the nature and value of awarded certificates; the possibility of using television, radio, and postal services for instructional purposes; and the concept of post-secondary institutions offering a wide variety of courses. The main part of the report consists of a review of post-secondary educational institutions and their role. Such areas as admissions, distribution of students in morning and evening courses, geographical distribution of institutions, program potential, and the role of teachers are discussed. Tables of descriptive statistics relating to Israeli education in general as well as post-secondary education are appended. (AL)

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# REPORT OF THE COMMITTEE

# ON POST-SECONDARY EDUCATION

DECEMBER 1971

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## CHAPTER 1 - The Work of the Committee

The Committee was appointed by the Council for Higher Education, at its session No. 10 (38) on May 5, 1970. During the discussion in the Council the following was summarized:

"A committee was appointed consisting of Professors S. Lifson, Chairman, E.E. Urbach, J. Jortner, A. Soltman and R. Shalon, members of the Council, and Professors H. Barkai, E. Katz and Mr. G. Cohen, not members of the Council; the task of the committee is as follows:

a. To review all facets of post-secondary education in Israel, excluding university education;

b. To suggest principles on which the development of post-secondary education should be based;

c. In the light of these principles, to make both long- and short-run suggestions concerning the planning and direction of the various types of post-secondary education and to determine priorities, taking into account the needs of the Israeli society and state, on the one hand, and the available resources, on the other;

d. To discuss, among other things:

   1. The interconnection between post-primary and post-secondary education;
   2. The interconnection between post-secondary and university education;
   3. The nature and value of the certificates awarded or proposed in the different types of post-secondary schools;
   4. The possibility of making use of television, radio and postal services;
   5. The concept of post-secondary institutions offering a wide variety of courses.

The Committee can coopt additional members, with the approval of the Chairman of the Council for Higher Education. The Committee can submit interim or partial reports on the various subjects."

During the course of the Committee's work its composition changed as follows:

In the middle of October 1970 Professor R. Shalon had to resign for health reasons, and soon after, the Minister of Education and Culture, upon the suggestion of the Chairman of the Committee, appointed three additional members: Mr. S. Derech, Professor H. Hanani and Professor M. Feldman.

The Minister of Education and Culture appointed three officials of the Ministry of Education and Culture as advisors to the Committee, each one in his own sphere: Mr. M. Avigad, Director of the Department for Vocational Education; Mr. M. Egozi, in charge of Statistics and Systems Analysis, and Mr. H. Tzippori, Director of the Popular Art and Adult Education Department. Furthermore, the Committee was assisted by Mr. S. Bendor, Secretary to the Council for Higher Education, who supplied information and material. The Secretary to the Committee was at first Mr. H. Tzippori, and later Mr. A. Ronnen.

Upon the request of the Committee, the Central Bureau of Statistics conducted a Survey of Institutions of Post-Secondary Education. Both before and after the implementation of the Survey the Committee held a number of meetings with Mr. U. Avner, Director of the Social Department, Mr. I. Leibner, Director of the Education and Culture Section, and Mrs. G. Kozlov, supervisor of the Survey. Some of the results of the Survey are attached to this report in an appendix (Appendix 1). The entire Survey was published as Publication No. 364 of the Central Bureau of Statistics; "Post-Secondary (non-academic) Education in 1971".

The Committee and its Chairman maintained continual contact with the Minister of Education and Culture, who also met with the Committee at one of

its sessions. On December 29, 1970 the Committee presented to the Minister of Education and Culture, at his request, an interim report on the subject "Colleges as a Way of Education Leading Partly or Fully Toward an Academic Degree". On March 31, 1971 the Committee submitted to the Minister, as an extention of the interim report, an experimental program for an Open University in Israel. The interim recommendations were presented to the Council for Higher Education, which discussed them at its meetings on February 23, March 30 and May 4, 1971. Similarly, the Committee also submitted to the Minister, in July 1971, a recommendation to establish a national center for colleges and post-secondary institutions. The Committee's interim reports and a summary of the discussions in the Council for Higher Education are attached to this report in an appendix (Appendix 2).

## CHAPTER 2 - Review of Institutions of Post-Primary Education

### General Data

The following review is based principally on the Survey undertaken for the Committee by the Central Bureau of Statistics, and also on material presented by the Committee's advisors, Mr. Egozi and Mr. Avigad. The review is also based on the following publications of the Bureau: Census of Students at Colleges, 1970; Census of Educational Institutions, 1970; Survey of Manpower, 1969; Survey of Teaching Classes, 1969; and on an article by U. Avner and I. Leibner, "20 Years of Teachers-Training in Israel, as Reflected in Figures (1949-1968)", which appeared in the annual report of the teachers-training institutions 1968, published by the Ministry of Education and Culture.

Post-secondary education in Israel is divided among a large number of institutions, most of them small in size and limited in their range of activities. In 1970 there were 139 such institutions in Israel, with approximately 16,000 students*, including three institutions of Arab education with 476 students. Eight institutions, comprising an estimated total of some 500 students, did not supply data. The data concerning 83 institutions were collected specifically for the Committee as of December 1970. With regard to the other institutions - 39 teachers-training colleges, and 13th and 14th grades in seven vocational schools - data are available from the annual census held by the Central Bureau of Statistics and the Ministry of Education and Culture, as of October 1970.

Most post-secondary education is conducted in unidisciplinary institutions, that is, institutions which train students in one field or in a number of neighboring fields. 95% of the 128 Hebrew institutions surveyed are unidisciplinary, and they account for 91% of all students.

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* In addition, some 4,000 students studied at 'Great Yeshivoth', intended for religious studies for students aged 18 and over; these Yeshivoth are not within the scope of the Committee's concern.

The unidisciplinary institutions may be classified into 6 types (see Tables 1 and 2):

- 38 teachers-training colleges, comprising 5,089 students and more than 900 teachers.
- 29 schools for technicians and technical engineers (including 13th and 14th grades in vocational schools), comprising 4,293 students and 716 teachers (excluding 13th and 14th grades teachers in vocational schools).
- 24 nursing and paramedical schools (most of them connected to hospitals, comprising 1,705 students and 536 teachers.
- 7 schools of management, accountancy, clerical work, etc., comprising 993 students and 111 teachers.
- 7 schools for the plastic arts, music, drama, comprising 876 students and 199 teachers.
- 17 other schools with 691 students and 215 teachers.

The four regional colleges, which form a category of their own, offer a wide range of adult education courses, including extra-mural studies under the auspices of academic institutions, as well as professional instruction at a post-secondary level, similar to that of the corresponding unidisciplinary schools. Together with schools preparing students for the examinations at academic institutions abroad, the Survey included 6 institutions in this category, comprising 1,394 students and 195 teachers. In addition to this, approximately 2,500 students in these regional colleges study subjects which are not defined as post-secondary by the Survey.

Post-secondary education is primarily designed to prepare professional manpower at a post-secondary level for defined occupations for which there is a demand in the market (teachers, technical engineers, various kinds of technicians, nurses, various kinds of clerks, etc.) In this connection, courses in the arts may also be considered as providing professional training. The certificate awarded at the end of the period

of studies (such as qualified nurse, technician, technical engineer, qualified surveyor, qualified laboratory assistant, qualified youth leader, etc.) serves as a kind of license for a specific occupation; the certificates are awarded by Government Ministries or by the institution itself and are usually recognized by employers and the unions as sufficient qualification to work in the profession, to receive the appropriate salary scale and to be a member in the professional union. The certificates do not usually allow for the acquisition of 'rights' in another profession, nor do they give their recipients the right to continue their studies in academic institutions.

The various post-secondary institutions were established and developed at the initiative, and with the financial help, of various factors which were interested in training professional manpower suited to their needs. First and foremost among them were Government Ministries (the Ministry of Education and Culture, the Ministry of Labour, the Ministry of Health, the Ministry of Tourism and the Ministry of Welfare) and public bodies (such as the Sick Fund, the Union of Clerical Workers, etc.); usually with the assistance or cooperation of various educational institutions (education networks such as ORT, academic institutions, the Technion's Extramural Studies Division, the Labour Productivity Institute).

The Government's budget allocation for post-primary education, according to information supplied to the Committee, amounted to IL. 26 million per annum in 1970, of which 18.5 million came from the Ministry of Education and Culture, 4.5 million from the Ministry of Labour and some 3 million from other Ministries. The size of the contribution from other bodies and from tuition fees to the budgets of institutions of post-primary education is not known, but the total expenditure of these institutions is roughly estimated at between IL. 40 and 50 million, namely an average of from IL. 2,500 to 3,000 per student. It is reasonable to assume that the expenditures per student in different fields vary considerably.

Some Data About the Past Development of Post-Secondary Education

Information about the past history of post-secondary education in Israel is rather scarce, apart from that pertaining to teacher-training colleges.

The following review is based on information that has been gathered within the framework of the Survey of Institutions of Post-Primary Education, 1970. It should be noted that the Survey does not apply to institutions which operated at some previous time but were not functioning in 1970, having been either closed down or merged with other institutions. In the past, information had been collected regularly about institutions under the auspices of the Ministry of Education and Culture, but most of the institutions of post-secondary education were not in this category.

The little information available about the history of post-secondary education does not enable us to recognize clearly the trends of development and growth in the past and what it implies for the future. The very fact that information about post-secondary education is so scarce indicates, perhaps, how little attention was paid to it hitherto by the Government and the public.

Most of the post-secondary institutions for technical and engineering training have been established since 1960, in response to the rapid technological development of Israel, which created a demand for professional manpower at a level between that of the trained labourer and the engineer; during 1969-70 alone, four new institutions for training technicians and technical engineers were founded. There are no data available concerning the rate of increase in the number of students in this field.

In the field of training of nurses and paramedical training, almost one third of the institutions were founded before the establishment of the State, another third during the first decade, and the last third during the second decade of the State's existence. No new institutions have been set up during the past two years. The number of students in nursing schools

has grown from 1000 in 1966 to 1150 in 1971, and in the paramedical schools from 480 in 1967 to 640 in 1970.

An important development in post-secondary education during the last few years has been the establishment of the regional colleges in Tel-Hai, the Jordan Valley, in the Menashe region and at Beith Berl. These colleges encompass post-secondary professional training, partial academic education, adult education at various levels and extension courses, all designed to serve within the framework of the college most of the needs of the region in adult education.

As stated above, the teacher-training colleges constitute an exception in post-secondary education, as information about them has been collected regularly. The subject is reviewed in "20 Years of Teacher-Training in Israel as Reflected in Figures (1949-1968)" by U. Avner and I. Leibner (Annual of Teacher-Training Institutions, 1968, published by the Ministry of Education and Culture). The information below is based on this article and on updated material supplied by its authors.

At the time of the establishment of the State, 12 teacher-training colleges, comprising 713 students, were operating in Israel. In 1971, 5,091 pupils were studying in 38 institutions. Four main stages may be distinguished, in which different priorities were operative in the development of teacher-training colleges:

Between 1949 and 1959 priority was given to the objective of training the greatest possible number of qualified teachers. Considerable efforts were made to attract students, by offering scholarships, residential accommodation, postponement of military service, etc. However, the urgent needs to expand the colleges were inevitably linked with lowering of standards: students with only partial secondary education (11 years) were admitted to courses for kindergarten teachers and vocational teachers, and colleges preparing teachers for rural areas. This was particularly prevalent in colleges which trained teachers for religious and independent (Agudath Israel) elementary schools.

Between 1960 and 1962 the admission requirements rose, together with an expansion in the scope of courses and subjects offered by the colleges. The number of pupils in elementary schools leveled off, and the demand for new qualified teachers was reduced correspondingly. There remained still many unqualified teachers in elementary schools, but these were required to complement their training through various extension courses made available outside the colleges, while the colleges themselves were charged with training enough qualified teachers to avoid the further employment of unqualified teachers in elementary education.

Between 1962 and 1968 priority was again given to the extension of teachers training, while at the same time efforts were directed towards maintaining the standard and range of studies. Starting from 1963 a four-year expansion program was implemented, doubling the number of students at teacher-training colleges (7,466 students in 1967 as opposed to 3,682 in 1963). At the same time the number of students who had not completed their secondary education increased - most of them in colleges training teachers for religious and independent schools.

During this period a new course of study ("General-Vocational Studies") was introduced, designed to train general teachers for the lower grades of elementary schools who would also teach certain vocational subjects. Starting from 1966 a third year of study was added in several Teacher's Colleges, in accordance with the recommendations of the Dushkin Committee.

In 1969 a considerable reduction in the number of students occurred (5089 compared to 7502 in 1968), and since then the number has remained stable. As a result of the educational reform and the need to supply specialised teachers of a higher level certain new trends have been developed in teacher-training colleges: there has been a change in the structure of studies and in the range of specialisations. Students who have not completed their secondary education are not accepted anymore (except in institutions of independent education), and there has been an increase in the number of students enrolled in the three year program.

Parallel to the process of growth in various fields of post-secondary education, there exists a trend of annexation of post-secondary institutions to academic institutions. It is motivated by the desire to expand the scope of instruction and by the student's interest in obtaining a recognised academic status. Thus, for example, accounting studies, which were conducted in the past in cooperation with the universities without entitling their graduates to a university degree, have undergone a process of academization. The universities of Tel-Aviv and Haifa have opened departments of accounting and economics which combine preparation for the accountancy examinations with studies for a first academic degree. Courses of accountancy on a post-secondary level (that is, not for an academic degree) exist only within the Administration College under the auspices of the Union of Clerical Workers. Similarly the School for Surveyors, the College of Physical Education at the Wingate Institute and the Rubin Academy of Music, either joined or became associated with the Tel-Aviv University, while the Kibbutz Seminar at Oranim has merged with the University of Haifa. Most of the training of social workers has shifted from independent institutions of post-secondary education to the universities which maintain faculties or schools of social work.

Conditions of Admission to Post-Secondary Institutions

The criteria for admission to post-secondary institutions (see Table 3) provide an image of the type of students which the institution is supposed to serve, of the educational level to which the institution aspires, and of the public image it hopes to attain. It appears that out of the 15,041 students in the institutions reviewed, 53% study in institutions where a matriculation certificate is a prerequisite for admission, 20% in institutions requiring a 12 grades certificate as well as entrance examinations and 26% in institutions which are content with a 12 grade certificate, without entrance examinations.

In general there exist also alternative requirements for admittance. Furthermore, students are often admitted on condition that they complete their secondary education, while in reality this condition is not always met. Detailed information on the subject is available only for teachers colleges (Tables 4 and 5). As noted above, these colleges were opened occasionally for students without matriculation certificates and even for students with less then 12 years of education, in response to the pressures of demand and supply of teachers. Such students finish colleges as unqualified teachers but the educational system cannot as yet cope with its problems without employing them.

If one would modify the data of Table 3 regarding the requirements for admission in the light of reality in teachers colleges as given in Tables 4 and 5, and even if one would assume that in other institutions conditions for admittance are more or less adhered to, one would find that not more then 25% of the students of post-secondary institutions have matriculation certificates. The rest either possess "Governmental High School Certificates" or have concluded 12 years without a certificate. It is to be concluded that, on the one hand, only a minor part among those who have a matriculation certificate go to post-secondary schools and, on the other hand, these schools insist generally on a minimum of 12 years of education. An important corrolary of these observations is that the road to professional training on a post-secondary level, is practically closed to those who dropped out at some stage of their secondary education. We shall return to this subject later.

The Duration of Studies and the Annual Intake in Post-Secondary Schools; The Distribution of Students According to Morning and Evening Courses, Men and Women

Only a small fraction of the students, some 4%, pursue their studies in institutions in which the duration of studies is a year or less. More than half of them, 57%, pursue their studies for a period

of 1 to 2 years, and 39% between 2 and 4 years. The average of the duration of studies is therefore near to 2½ years (see Table 3).

The number of first year students (8,159) can serve as a gauge of annual intake. It is significantly larger than would have been estimated from the overall extent of post-secondary education and the average period of studies. The difference should be attributed either to the growth of post-secondary education in 1971 as compared with previous years, or to the drop-out rate in post-secondary education. It would be interesting to know the relative weight of these two factors. If we combine the annual intake of academic education with that of post-secondary education we will find that the overall annual intake of the post-secondary schools and the universities is approximately 19,000 students per year. This number is very near to the total number of students completing 12 grades. This fact requires particular attention, and should be regarded as one of the most surprising results of the Survey, since it has important repercussions on the post-secondary learning potential and the chances to expand it. Yet, it should be remembered that thousands of students who complete 12 grades do not continue their studies, or else go abroad to study, while adults who go back to school to seek academic or post-secondary education, account for a non-negligible portion of the annual intake (some 10%-15%). Similarly, among university students there are many who completed their secondary schooling abroad (917 in 1970). It would be desirable to know in more detail the age-distribution and origins of students at institutions of post-secondary and academic education, but this requires systematic data collection and research which lie beyond the scope of the Committee's work.

It is also desirable to distinguish between morning and evening studies (Tables 7 and 8). Studies are conducted during the morning in all teacher-training colleges. In the other institutions of post-secondary education approximately half the students study during the evening. The duration of evening courses is longer than that of morning

courses. 70% of the students in morning courses study for between one and two years, while a similar percentage of evening students study for more than two years. Accordingly, most of the students learning during the morning study for more than 30 hours per week - whereas evening students study for approximately 20 hours per week. All the students in the teaching and social work courses and most of the students of arts study during the morning - between two and three years in teaching and social work and four years in the arts. On the other hand, 80% of the students of clerical work and accountancy, 67% of those studying technical subjects, and between a third and a half of the students of paramedical subjects and of technical engineering, study during the evening.

45% of the students attending post-secondary education are men. 75% of the students are in the 18-24 age-group, another 15% are in the 25-29 age-group and the rest are aged over 30 (see Table 2).

## The Distribution of Post-Secondary Institutions by their Size and Geographical Location, Organisational Affiliation and Supervision

Table 1 shows the distribution of the institutions by their size and geographical location. Most striking is the large number of small institutions designed to satisfy a limited local demand; even in the large cities many of the post-secondary institutions are small or medium-sized - that is catering for dozens or at the most a few hundred students each. This can be seen in greater detail through an examination of the list of post-secondary institutions.

There exist, in the various fields of post-secondary education, nation-wide governmental and other bodies which are in charge of the overall policy of development as well as supervision over the organizational, financial and professional activities of the individual institutions. The following list of such bodies represents the information obtained from these central bodies. In no case did we

examine the quality and extent of supervision attributed to the supervising bodies.

In the field of teacher-training the colleges are supervised and financed by the Ministry of Education and Culture, which bears sole responsibility for policy in this field.

In the field of training technicians and technical engineers most institutions are supervised by the National Institute for Technical Training, and a few by the Technion. Apart from schools for technical professions, NITT is responsible for the training of technical instructors and teachers for the post-primary vocational schools. Similarly, the Institute is also responsible for the certificates of qualification awarded to students who complete the courses successfully.

The Board of Directors of NITT consists of representatives of the Ministry of Labour, the Ministry of Education and Culture, ORT, the Technion, the General Workers' Union (Histadrut), the Industrialists' Association, the Labour Productivity Institute and the Technicians' and Technical Engineers' Union. The activities of NITT are financed equally by the Ministry of Labour and the Ministry of Education and Culture.

The technical and technical-engineering schools are operated by three national bodies:

1. The National School for Adult Technicians and Technical Engineers - this institution is within the framework of the Extramural Studies Division of the Technion and maintains 8 branches throughout the country. Since 1971 the "Technical Training Center" has also transferred to this body.
2. Schools for training technicians and technical engineers in cooperation with ORT.
3. The Productivity Institute - which trains technicians and technical engineers in the trend of Production Engineering.

In the field of the training of nurses and paramedical professionals, most of the nursing schools are attached to hospitals: 5 institutions are attached to government hospitals; 6 to hospitals of the Histadrut Sick Fund and 4 to private or public hospitals. The studies in all these institutions are under the supervision of the Ministry of Health, and the certificates of 'Qualified Nurse', awarded to students who have passed the final examinations, are issued by the Ministry of Health. In the training for paramedical occupations, the courses are also under the supervision of the Ministry of Health.

Training youth leaders - studies are under the supervision of the Ministry of Education and Culture, and the award of certificates to graduates is also subject to its approval. Students completing the courses must pass external examinations which are conducted by the Ministry of Education and Culture.

In the sphere of the arts - most of the institutions are under the supervision of a governmental body or a municipal authority, sometimes manifested only through financial support. The School of Drama, Bezalel, the Jerusalem Academy of Music, the Stage-Acting Studio and the Bat-Yam Art Institute are recognized and supported (the first is totally maintained) by the Ministry of Education and Culture. The last two institutions are also supported by the municipal authorities.

Training social workers - these institutions are supervised by the Ministry of Welfare and the qualifying certificates are granted by this Ministry.

School for tourist guides which trains guides and travel agents, and also the Hotel School, are both under the supervision of the Ministries of Labour and Tourism.

Academic studies in the regional colleges which give students credits recognized by academic institutions are based on contracts and agreements between the college and the academic institution. Studies in these courses are coordinated with the academic institution and are

conducted under the supervision and guidance of the corresponding departmental heads. The teachers are usually members of the academic staff of the academic institution with which the college is connected.

## The Potential of Post-Secondary Studies

Most of the students in institutions of post-secondary education are in the 18-34 age-group. From the manpower survey conducted in 1969 by the Central Bureau of Statistics (see Tables 9 and 10), it appears that the percentage of students over the age of 34 is very small. Thus, the age-group of 18 and 34 constitutes the potential source for existing post-secondary institutions as well as those to be established in the future. What is the situation regarding work and study within this age-group?

The enrollment rate in any organized learning framework for the 18-34 age-group amounted to 10~11% in 1970, that is, approximately 67,000. Two thirds of the students studied full-time while the other third both studied and worked. Of all these in the 18-34 age-group 50% belong to the labour force and another 40% are neither students nor workers. Do they constitute a potential for post-secondary education? It seems that for most of them the answer must be negative, in the context of existing avenues of post-secondary education, but it might be positive for a not inconsiderable number of them provided that the appropriate conditions are created, as can be concluded from the following data:

Of the 67,000 students attending institutions of any kind (not including short courses), almost two thirds were students in academic institutions, almost a quarter attended institutions of post-secondary education and the rest attended yeshivot or various private institutions. Accordingly, it appears that of all those studying, almost three quarters have had 13 or more years of study while among those who are not studying almost 90% have received less than full high-school education. It seems,

therefore, that the entry requirements of institutions of post-secondary education (matriculation certificate or the completion of at least 12 years of schooling) are to a large extent responsible for this situation, since they are inappropriate for more than two thirds of the 18-34 year-old population.

Yet, it should be taken into account that among those who are not studying there is still a great potential for post-secondary education, even in their present form. Out of approximately 550,000 in the 18-34 age-group who are not studying (see Table 9) about 13% have attended 13 or more grades and 30% have attended 11 or 12 grades. According to the findings of the survey on 'Israeli Culture 1970', which was held by the Institute of Applied Social Research and the Institute of Communications of the Hebrew University, directed by Professor Elihu Katz, the percentage of those who desire to study in some institution of learning is surprisingly high among that sector of the population which has the above education, and amounts to 30%. This implies that among the adult Israeli population there is a considerable post-secondary learning potential, which can be realised to some extent if the appropriate conditions should be created. It should also be noted that even among those with 9 or 10 years of education, who constitute 18% of the 18-34 age-group, there is a similar percentage who desire to study. Ways should be found to supplement their secondary education in preparation for studies in a post-secondary framework.

These data at first glance contradict the findings cited above, that the overall annual intake of post-secondary schools and the universities is more or less equal to the numbers of pupils completing 12 grades of schooling, implying that the vast majority of those capable of benefiting from post-secondary and academic education do receive it. It must be assumed that this contradiction is presumably resolved by noting that most of those who would wish to acquire post-secondary or

academic education either lack the necessary certificates or are unable to study for geographical, financial or family reasons. It is our opinion that extensive research should be done in this area, since knowledge of the character and size of the post-secondary learning potential should serve as a basis for determining the policy for the planning of post-secondary education.

## Teachers in Post-Secondary Education

Approximately three-quarters of all the teachers in post-secondary education have academic degrees of various kinds. This applied to all fields, except for the training of nurses and para-medical professions, where teachers with academic qualifications constitute a somewhat lower proportion (62%) (Table 2). Possibly, this can be explained by the relatively large role played by those dealing with instruction in these institutions. The teachers in art schools were not classified according to their academic education due to the absence of appropriate data.

It should be noted that these data are insufficient to describe the professional and academic level of teachers in post-secondary education, since the percentage of those with academic degrees is not in itself a sufficiently reliable gauge of the contribution made by those teachers to post-secondary education.

The number of hours constituting a teacher post varies from one institution of post-secondary education to another. Nevertheless, it can be said that in general most of the teachers teach for a relatively small number of hours per week. Approximately 90% teach up to 10 hours per week, most of them teaching between one and four hours per week. It may be assumed that for most of the teachers instruction in institutions of post-secondary education is not their main occupation.

Selected Data on Secondary and Higher Education

In conclusion we present selected data on secondary and academic education which will help up to see the relation between them and post-secondary education in the correct perspective.

Of the 50,000 in the age-group of 18, about 20,000 have completed 12 grades. Of these, about 10,000 have obtained matriculation certificates (including external) and about 1,500 have governmental high-school graduation certificates. The rest are divided into those who have received graduation certificates from a vocational school or who have completed 12 grades in a rural settlement without obtaining an approved certificate. From these data it appears that there is a drop-out rate of approximately 60% in secondary education. Following the history of the age-group of the 1971 high-school graduates, we see that in 1967, 51,044 attended the 8th grade of elementary school; in 1968, 36,149 attended the 10th grade; in 1969, 28,902 attended the 11th grade; and in 1970, 21,369 attended the 12th grade.

As regards the question what is the projected increase in the population of secondary school graduates, during the seventies, it is important to note that the age-groups of first graders in the years between 1960 and 1970 remained almost constant, around 48 to 50 thousand each year. These are essentially the age-groups of the 12th graders in the years between 1971 and 1981 respectively. Thus, demographically no growth of the number of school graduates can be expected during the '70s. The chances of growth are consequently dependent on the extent of immigration, on the one hand, and on the reduction of drop-out rate in secondary education, on the other.

The policy of the Ministry of Education and Culture is designed to reduce the drop-out rates and to increase the numbers of qualified graduates in various ways. Two of these deserve particular attention. Firstly, the reform in secondary education, the establishment of comprehensive schools throughout the country, and the raising of the age of compulsory education, are expected to increase the number of the attendance in secondary schools

and reduce the drop-out rate; this is, however, a long-term process whose results will be seen at the earliest during the second half of the '70s. Secondly, the Ministry of Education and Culture aims at expanding the 4 years vocational trend in vocational and comprehensive secondary schools. To the extent that this policy will be implemented successfully, the number of 12 graders may be expected to rise considerably during the next five years.

In 1971, about 40,000 students attended higher education, 2.5 times as many as were in post-secondary education. The budgets of the academic institutions totalled IL. 600 million in the financial year 1971/72, IL. 150 million of which were for development; the Jewish Agency and the Government contributed IL. 385 million, of which IL. 75 million were for development. During the '60s there was a steep rise in higher education, partly due to demographic changes which gave rise to a similar change (with a 2-3 years difference due to military service) among high-school graduates. This can be seen from the diagram included in the interim report of December 29, 1970 issued by the Committee (Appendix 2).

During the '70s a considerable decline is expected in the growth-rate of the university population. In 1970 approximately 11,000 first-year students were admitted at the universities. This number is larger than the number of recipients of matriculation certificates, which has remained steady since 1967 at around 10,500 per year. The expected future growth of recipients of matriculation certificates will be slow, since the age-group of high-school graduates will remain, as we noted previously, more or less stable during the '70s. It is also important to note that the ratio between westerners and orientals among the age-group of higher education is expected to shift in the '70s, in favour of those of oriental origin (see Table 11). This is significant, since the percentage of those obtaining academic education among westerners, and the corresponding percentage among orientals, are related at present by the ratio of 7:1. If this ratio will not alter, a decline is expected

in the academic learning potential of the Israeli population. To the extent that despite of these figures the university population will still continue to grow, as is actually expected to some extent, growth will depend on the tendency among the adults to return back to school and seek academic education, on the efforts invested and on the success in increasing the participation of orientals in academic education, on the growth of the flow of students from abroad and on whether a larger percentage of students will continue their studies for a higher degree.

## CHAPTER 3 - Principles for the Development of Post-Secondary Education

In suggesting principles for the development of post-secondary education in Israel we find it necessary to emphasize that any development program must take into consideration the existing assets of post-secondary education, take advantage of its achievements, and alter whatever requires to be altered.

The post-secondary schools today fulfill some basic needs of a considerable portion of secondary school graduates. In particular, those who have neither learned a profession at the secondary school, nor obtained a matriculation certificate which is a prerequisite for a university education, find that professional training through post-secondary education is of decisive importance in their lives. Comparing the number of about 10,000 students which complete 12 grades without matriculation certificates with the number of about 8,000 students in first year post-secondary schools, one realizes that post-secondary education absorbs already a large part of its reserves.

Moreover, post-secondary schools fulfill at present many basic needs of the Israeli society and economy, just as they have done in the past. The teacher-training colleges have played a crucial role in the heroic effort to develop and maintain an education system under conditions of immigration and its absorption, anywhere else. The network of schools for technicians and technical engineers has supplied, and continues to supply, professional manpower which is indispensible to modern industry. This manpower fulfills an essential task in the accelerated development of industries, highly-sophisticated in part, which has characterized the Israeli economy during the last few years, particularly since the Six Day War. The other spheres of post-secondary education also play an essential role in the Israeli society. We are under the impression, although we failed to obtain detailed factual evidence, that the state of employment of the graduates of post-secondary schools is satisfactory in all professional sectors.

In spite of its great importance for the Israeli society and economy, the post-secondary education has been grossly neglected relative to both secondary and higher education. During the last few years high-school education has been accorded maximum attention, and wide-ranging changes have been introduced with regard to its growth-rate and the range of its activities, as well as with regard to innovations in curricula and in teaching methods, particularly in the sphere of the natural sciences and mathematics. These changes are most clearly expressed in the recent reform introduced in the structure and program of the Israeli high-schools which initiated a gradual reorganization of the whole Israeli school-system. To the extent that this educational reform expands in depth, its various aspects will necessarily have repercussions on post-secondary education during the second part of the '70s. As regards university education, it benefits, on the one hand, from administrative and academic freedom and from the respected public status of its institutions, while, on the other hand, it is legally institutionalized by law through the Council for Higher Education, which is empowered with the authority of establishing a national policy for higher education. Compared with these, post-secondary education suffers from the lack of a general master plan for its development, the lack of sufficient governmental backing for various initiatives, to the extent that these do not respond to urgent needs of some particular government ministries. Moreover, the division of post-secondary education into different sections under the responsibility of different bodies, without sufficient coordination between them, restricts considerably the ability of the system to improve and develop. As a result, there is room in post-secondary education for extensive changes in the level of instruction as well as in the capacity to attract more and better students.

The development of post-secondary education should be based on the following principles:

1. Expansion, extension and partial academisation of post-secondary education

The central aim of post-secondary education is to provide professional training which is based on the student's secondary education, suits his personal inclinations, and serves some vital economic or other needs of society. In fact, post-secondary education in its present form aims at achieving this objective. However, because of the way in which it has developed and the way in which it is organized, post-secondary education is able to attract mainly those students who have no matriculation certificates, even if professionally such certificate is required as a prerequisite for admission. The reason for this situation is that intellectually, socially and emotionally the post-secondary school is regarded by the youth as so much inferior to the university that only those who have no alternative enter post-secondary education, apart from the few whose personal inclination to a given post-secondary area of education is particularly strong. The academic grading of government employees with academic degrees even in jobs which do not require academic education, also contributes significantly to the increasing tendency to prefer university over post-secondary education.

It is felt that this situation causes harm to a large class of potential students whose abilities and inclinations are suited to post-secondary education rather than to university education. This situation also damages the economy and society as a whole. It harms even the universities. The immense pressure of young people to be admitted by the universities forces them to lower academic standards and places burdens on the academic staff which they have neither the desire nor the ability to cope with.

An outstanding example of the above is the situation regarding the training of teachers for the newly established system of junior high-schools. This training naturally belongs to post-secondary education, and indeed most of the universities have not yet shown any enthusiasm for

taking on the task of training such teachers. However, the teacher-training colleges, apart from a few exceptions, are incapable of fulfilling this task in their present condition and status, since they are unable to attract students of the appropriate quality. Furthermore, their staff is not suited, on the whole, for teaching courses whose intellectual level must parallel university undergraduate courses, while didactically they should be adapted to train students towards teaching rather than research.

Consequently, we suggest that the development policy of post-secondary education should tend towards expanding and deepening post-secondary education with the objective of including within its framework partial or complete undergraduate teaching. In the recommendations which follow we shall discuss several ways of realizing this principle, such as establishing a national network of colleges, an open university, the possibility of granting academic recognition to appropriate kinds of colleges education, and of giving credits for partial academic education.

## 2. Expanding the reserves of post-secondary education

The demand for professional manpower at post-secondary level is increasing. According to the results of the survey summarized in the previous chapter, the post-secondary and academic institutions absorb a number of students approximately equal to the number leaving school after completing 12 grades. It can be expected that as industrialization and automation expand in economy and management, the demand for individuals with post-secondary training will increase, as will the pressure for professional in-service updating for those whose professional training has become outdated. We believe that suitable changes in the organization and methods of instruction within post-secondary education can attract a considerable part of the learning potential whose existence has been indicated in the foregoing chapter, and in our recommendations we shall discuss various possible ways of achieving this aim.

3. Dispersion of the post-secondary student population

The creation of a local intelligentsia of professionals such as teachers, technicians, engineers, physicians, etc., is one of the necessary conditions for social stability and economic development of border regions, development towns and rural areas. The desertion of rural areas and the exaggerated growth of big cities create problems which are among the most troublesome in modern civilisation. One of the major forces in this process is young people's eagerness to acquire a profession and an education for the sake of economic, social and cultural progress. In Israel, dispersion of the population is one of the principal goals of social and security policy. In our opinion it is essential that population dispersal be accompanied by a concerted effort to disperse the post-secondary learning population, by encouraging regional colleges and using the communication media and the new instructional technologies in order to bring education to the student's home or to the area where he lives. A particular problem faces, in this respect, the kibbutz movement, where the post-secondary and academic learning potential is extremely high. The mounting pressures to obtain university education constitute a serious threat to its stability and development. It should be noted with appreciation that the present system of secondary education has its various branches already distributed throughout the country. However, in our recommendations we shall indicate ways by which new dimensions, in depth and in extent, can be added to post-secondary education in all parts of the country.

4. The development and implementation of new technologies in post-secondary education

The Committee believes that it is impossible to put the above principles into practice without using unconventional tools, such as the mass media and other modern techologies of teaching, and in our recommendations we shall indicate some of them.

5. Government policy

Finally, the actual implementation of all these principles on a scale which will answer Israel's needs for the next and the coming decades requires the establishment of a central body with the authority to initiate, implement, supervise and coordinate. It should operate on the basis of a national master plan and should get the full support of the Ministry of Education and Culture and of all the other government and public bodies associated with post-secondary education.

## CHAPTER 4 - The Committee's Recommendations

The recommendations below would, in the Committee's opinion, help to put into practice the principles for developing post-secondary education which were suggested in the previous chapter.

### A. Colleges

The Committee recommends the gradual development of a national network of colleges as the main way of expanding and deepening post-secondary education. The objective of the colleges is to serve as centers of adult education on all levels. Accordingly, within their framework both professional and general studies would be conducted. In consideration of economic and social needs, preference should be given to professional studies. An institution will be called a college if at least some of the teaching given there is recognized by the Council for Higher Education as leading wholly or partly to a first academic degree. The colleges will emphasize teaching, and also research aimed at improving methods of instruction, and will not maintain courses for second or third degrees. In addition to academic instruction as suggested above, the college will cater to needs of the region where it belongs, in all aspects of post-secondary professional training and of other areas of adult education. Professional training and adult courses which do not lead to an academic degree, will be taught by the various schools attached to the college.

Existing trends toward academization of post-secondary institutions such as teacher-training colleges, nursing schools and others should be coordinated with the universities, since both groups draw on the same sources for their supply of students.

The college should aspire to expand its post-secondary and academic student-body by holding courses for adults at secondary-school level in preparation for post-secondary education. As noted previously, present

post-secondary education is more or less closed to students who have not completed their secondary education. The presently available program of external matriculation examinations is not adequate as the sole way of pre-college education for adults. The Committee feels that the offering of a 'second chance' to adults by providing an alternative program of pre-college education, will serve the public interests, both by responding to basic social and economic needs and by encouraging and satisfying the prevailing desire for knowledge among adults.

The Committee sees many advantages in the merging of various single-trend schools within one multidisciplinary college. As opposed to the single-trend schools, which are mostly single-sex and small, the college population will be varied and large. The college will thus serve as a focus of social activities and can also play a social-cultural role in the area where it is sited. The college will possess many educational facilities which are beyond the reach of single-trend schools. It will be able to enrich education through the cooperation among teachers over a wide spectrum of subjects, and will be better equipped to introduce systems of teaching and instructional equipment which are beyond the reach of most single-trend schools. Furthermore, it may be possible to reduce costs, to expand and utilizes more efficiently various services such as libraries, halls for various purposes, laboratories, etc. All these may develop to a far higher level in a large, comprehensive institute. Also administration, public representation and financing will be more efficient in a large institute. Consequently, the Committee recommends that the development policy be based on the principle of giving priority to a comprehensive, multi-purpose college. Nevertheless, the Committee also recommends the continued existence of unidisciplinary post-secondary schools which fulfill a vital function, if their integration within a comprehensive college appears to be impractical.

B. Experimental program for establishing an 'open university'

This recommendation, which was submitted to the Council for Higher Education as part of the Committee's interim recommendations, is included in Appendix 2. A few comments are given below in order to clarify and emphasize several aspects.

1. Modern methods of teaching technology, on which the Open University in Britain is based, as well as similar and other methods, are now in the process of being developed and tested in various parts of the world. They are applicable to academic and post-secondary education, as well as to pre-college remedial courses, updating of vocational and professional training, and other facets of adult education. The Committee proposed in its preliminary report an immediate implementation of such teaching methods for the training of teachers in the sciences and in mathematics for junior and senior high-schools. In these disciplines the shortage of teachers is very grave, particularly in rural and border areas. The Committee had two objectives in mind. Firstly, this proposal would offer an appropriate solution to an urgent and important problem. Secondly, it would be a pioneer experiment, whose purpose would be to develop new methods of learning technology and apply them particularly to those regions and populations where a suitable alternative is not available.

2. Despite the name 'Open University', taken from the British example, the program we suggest is limited to college education, defined above as "leading wholly or partly to a first academic degree", and is intended to be part of the recommendation included

in the Committee's report of December 29, 1970 concerning the need to establish a "center for developing post-secondary and academic teaching, such as the Amos de-Shalit Science Education Center, [among whose] tasks would be the development of curricula and learning methods for the colleges, including methods of using the mass media - the post, radio and television".

3. The experiment of the Open University in Great Britain seems to indicate that insufficient attention was paid there to the vital role of the 'Learning Centers' in creating an academic atmosphere and a sense of belonging through direct contacts among the teachers and the students, who together constitute the academic community.

The Committee recommends that the activities of the 'Open University' should be combined with those of the colleges wherever and to the extent that this is feasible. The colleges will develop the types of activity which are characteristically theirs in accordance with their aims and needs, but at the same time they will constitute 'Learning Centers' of the 'Open University', as an integral part of their activities. A college may expand and complement the curriculum of the 'Open University' as it sees fit, and in fields where it has gained recognition by the Council for Higher Education, it may even change the cirriculum to suit its own purposes. The 'Open University', for its part, will advise the colleges and help them to maintain academic studies at an appropriate standard, and will also guide and help the colleges by developing similar instruction methods in the other spheres of post-secondary education.

4. The Committee recommends that ways of combining the experiment of the 'Open University' with the activities of instructional

television and the Institute for Teaching Technology be studied, in order to obtain maximum value from the experience that has been accumulated by these institutions, and in order to prevent unnecessary duplication in investment and effort.

C. A national center for post-secondary education (colleges and post-secondary institutions)

The Committee recommends that a national center for post-secondary education (colleges and post-secondary institutions) be established by the Council for Higher Education, upon the recommendation of the Minister of Education and Culture.

The range of authority and activities of the Center will include:

1. To review regularly the activities in post-secondary education, its development, problems and needs.
2. To discuss matters of principle and day-to-day problems of post-secondary education and to advise the Council for Higher Education and the Minister of Education and Culture on ways of its development and direction, on distribution of resources, priorities, etc.
3. To supervise the 'Open University' and the network of colleges and learning centers when these are established, and to determine standards and procedures regarding academic appointments in post-secondary education.
4. To recommend to the Council for Higher Education the granting of partial or full academic recognition to post-secondary institutions or to courses given by them.
5. To initiate, encourage and coordinate activities in developing study programs and methods, the use of new technologies and the mass media for the service of the institutions of post-secondary education.

6. To make suggestions regarding coordination and the prevention of duplication regarding the activities of government ministries and of public and private institutions in the sphere of post-secondary education.

The Committee suggests that more detailed recommendations regarding the authority, duties and procedures of the center will be worked out by the center or in consultation with it after it is established, and will be submitted to the Council for Higher Education for approval.

The structure of the Center

1. The chairman of the center and its members will be appointed by the Council for Higher Education on the recommendation of the Minister of Education and Culture. The appointments will be personal.
2. There will be between 20 and 25 members of the Center.
3. One third of the members of the Center will be persons of senior academic status, some of them members of the Council for Higher Education; one third will be chosen among persons active in the various spheres of post-secondary education; and one third will be public personalities associated or interested in post-secondary education.
4. Arrangements for granting credits for academic studies. There are post-secondary institutions where some courses are more or less on a level equal to the parallel studies in academic institutions. In these cases the Committee recommends that arrangements be fixed with the academic institutions to give credits to students who have studied these courses and who desire to be admitted to an academic institute. These credits should relieve the student from the obligation to repeat the same course, by either recognizing his former credits as transferable,

or let him be examined again at the academic institution after he complement on his own that part of the academic course which extends beyond the corresponding course in his post-secondary education.

APPENDIX I

The Central Bureau of Statistics
December 1970

Survey of Post-Secondary Institutions 1971
(The following tables refer to Hebrew education)

## Table 1 - Institutions, Students and Teaching Staff in Post-Secondary Education

| | Total | Field of Training: Unidisciplinary Institutions: Teachers' training(1) | Technical and engineering training(2) | Nurses and paramedical | Administration and accountancy | Arts | Other | Multidisciplinary institutions |
|---|---|---|---|---|---|---|---|---|
| | | | | I - Institutions | | | | |
| Total | 128 | 38 | 29 | 24 | 7 | 7 | 17 | 6 |
| Districts | | | | | | | | |
| The 3 big cities - total | 61 | 16 | 15 | 9 | 4 | 4 | 9 | 4 |
| Jerusalem | 18 | 6 | 3 | 3 | - | 2 | 2 | 2 |
| Tel-Aviv | 28 | 7 | 8 | 4 | 2 | 2 | 4 | 1 |
| Haifa | 15 | 3 | 4 | 2 | 2 | - | 3 | 1 |
| Other districts - total | 67 | 22 | 14 | 15 | 3 | 3 | 8 | 2 |
| Northern district | 14 | 4 | 4 | 2 | 1 | 1 | - | 2 |
| Central district | 41 | 14 | 7 | 11 | 1 | 2 | 6 | - |
| Southern district | 12 | 4 | 3 | 2 | 1 | - | 2 | - |
| Number of students per inst. | | | | | | | | |
| Up to 24 | 12 | 1 | 4 | 2 | - | 1 | 4 | - |
| 25-49 | 27 | 5 | 4 | 6 | 3 | 1 | 8 | - |
| 50-74 | 21 | 5 | 5 | 7 | - | 1 | 3 | - |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 75-99 | 14 | 6 | 1 | 5 | - | 1 | 1 | - |
| 100-199 | 32 | 13 | 6 | 4 | 2 | 2 | 1 | 4 |
| 200-599 | 18 | 8 | 5 | - | 2 | 1 | - | 2 |
| 600 + | 4 | - | 4 | - | - | - | - | - |
| | | | | II - Students | | | | |
| Total | 15,041 | 5,089 | 4,293 | 1,705 | 993 | 876 | 691 | 1,394 |
| Districts | | | | | | | | |
| The 3 big cities - total | 9,427 | 2,540 | 3,186 | 674 | 898 | 694 | 404 | 1,031 |
| Jerusalem | 2,342 | 935 | 220 | 351 | - | 479 | 112 | 245 |
| Tel-Aviv | 4,328 | 1,219 | 1,311 | 243 | 585 | 215 | 205 | 550 |
| Haifa | 2,757 | 386 | 1,655 | 80 | 313 | - | 87 | 236 |
| Other districts - total | 5,614 | 2,549 | 1,107 | 1,031 | 95 | 182 | 287 | 363 |
| Northern district | 1,216 | 613 | 83 | 108 | 30 | 19 | - | 363 |
| Central district | 3,427 | 1,589 | 601 | 816 | 25 | 163 | 233 | - |
| Southern district | 971 | 347 | 423 | 107 | 40 | - | 54 | - |
| Number of students per inst.(2) | | | | | | | | |
| Up to 24 | 215 | 13 | 76 | 28 | - | 19 | 79 | - |
| 25-49 | 947 | 178 | 129 | 229 | 95 | 36 | 280 | - |
| 50-74 | 1,203 | 291 | 225 | 459 | - | 72 | 156 | - |
| 75-99 | 1,220 | 515 | 86 | 452 | - | 91 | 76 | - |
| 100-199 | 4,401 | 1,861 | 708 | 537 | 233 | 354 | 100 | 608 |
| 200-599 | 4,983 | 2,231 | 997 | - | 665 | 304 | - | 786 |
| 600 + | 1,273 | - | 1,273 | - | - | - | - | - |
| | | | | III - Teaching staff | | | | |
| Total | 2,829(3) | 857 | 716(4) | 536 | 111 | 199(3) | 215 | 195 |
| Teachers qualifications(5) | | | | | | | | |
| Academic degree | 1,651 | 410 | 569 | 333 | 62 | - | 144 | 133 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Non academic | 890 | 447(6) | 139 | 200 | 18 | - | 52 | 34 |
| Unknown | 89 | - | 8 | 3 | 31 | - | 19 | 28 |
| Percentage of teachers with academic degrees | 60.2 | 47.9 | 80.4 | 62.5 | 77.5 | - | 73.5 | 79.6 |

(1) In colleges for teachers in primary schools and kindergartens under the auspices of the Ministry of Education and Culture.

(2) In this and the following tables, inclusive 799 students in grades 13,14 of vocational high-schools. These students are not included in the "Number of Students per Institute".

(3) Data on teaching staff are estimates; Data on teachers are as of December 1969; 199 teachers in arts schools were not classified according to qualifications because of lack of appropriate information.

(4) Excluding teachers in grades 13,14 in 7 vocational high-schools.

(5) Data on teachers qualifications (excluding teachers colleges) were given by the institutions on the basis of their, sometimes, incomplete information. The number of teachers with academic qualifications may therefore be distorted upward. Data from teachers colleges are exact.

(6) Including 158 teachers with partial academic education.

Table 2 - Students in Post-Secondary Education According to Fields of Training, Sex and Age
(Absolute Numbers and Percentages)

| Sex and Age | Total | Teachers training | Technical professions | | | | Nurses | Para-medical | Administration and accountancy | Arts | Other fields |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total(1) | Technical engineering | Technicians | Other | | | | | |
| **Absolute Numbers** | | | | | | | | | | | |
| Total | 15,041 | 5,089 | 4,696 | 3,267 | 949 | 480 | 1,151 | 600 | 1,364 | 876 | 1,265 |
| Sex | | | | | | | | | | | |
| Men | 6,717 | 657 | 3,948 | 2,867 | 886 | 195 | 30 | 58 | 1,097 | 317 | 610 |
| Women | 8,324 | 4,432 | 748 | 400 | 63 | 285 | 1,121 | 542 | 267 | 559 | 655 |
| Age | | | | | | | | | | | |
| 18-24(2) | 11,384 | 4,733 | 3,120 | 2,287 | 537 | 296 | 1,101 | 567 | 500 | 762 | 601 |
| 25-29 | 2,193 | 320 | 1,056 | 750 | 276 | 30 | 30 | 30 | 396 | 95 | 266 |
| 30 + | 1,313 | - | 405 | 230 | 136 | 39 | 20 | 3 | 468 | 19 | 398 |
| Unknown | 151 | 36 | 115 | - | - | 115 | - | - | - | - | - |
| **Percentage** | | | | | | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Sex | | | | | | | | | | | |
| Men | 44.7 | 12.9 | 84.1 | 87.8 | 93.4 | 40.6 | 2.6 | 9.7 | 80.4 | 36.2 | 48.2 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Women | 55.3 | 87.1 | 15.9 | 12.2 | 6.6 | 59.4 | 97.4 | 90.3 | 19.6 | 63.8 | 51.8 |
| Age | | | | | | | | | | | |
| 18-24(2) | 76.5 | 93.7 | 68.1 | 70.0 | 56.6 | 81.1 | 95.7 | 94.5 | 36.7 | 87.0 | 47.5 |
| 25-29 | 14.7 | 6.3 | 23.1 | 23.0 | 29.1 | 8.2 | 2.6 | 5.0 | 29.0 | 10.8 | 21.0 |
| 30 + | 8.8 | - | 8.8 | 7.0 | 14.3 | 10.7 | 1.7 | 0.5 | 34.3 | 2.2 | 31.5 |

(1) See footnote 2 in Table 1.

(2) Inclusive 236 students age 17 of which 209 in teachers colleges.

Table 3 - Students in Post-Secondary Education According to Fields of Training, Conditions of Admission, Year of Studies, Duration of Studies, Time of Courses and Average hours per Week
(Absolute Numbers and Percentages)

| Conditions of admission, Year of studies, duration of studies, time of courses and average hours per week | Total | Teachers training | Technical professions | | | | Nurses | Para-medical | Administration and accountancy | Arts | Other fields |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | Technical engineering | Technicians | Other | | | | | |
| **Absolute Numbers** | | | | | | | | | | | |
| Total | 15,041 | 5,089 | 4,696 | 3,267 | 949 | 480 | 1,151 | 600 | 1,364 | 876 | 1,265 |
| Conditions of admission(1) | | | | | | | | | | | |
| Matriculation certificate | 7,972 | 4,333 | 563 | 482 | 24 | 57 | 126 | 505 | 871 | 678 | 896 |
| 12 years and entrance exams | 2,960 | - | 2,781 | 2,030 | 530 | 221 | 92 | 34 | - | - | 53 |
| 12 years without entrance exams | 3,906 | 756(2) | 1,315 | 755 | 358 | 202 | 933 | 61 | 493 | 55 | 293 |
| Other | 203 | - | 37 | - | 37 | - | - | - | - | 143 | 23 |
| Year of studies | | | | | | | | | | | |
| 1st year | 8,159 | 2,550 | 2,813 | 1,707 | 829 | 277 | 466 | 277 | 789 | 328 | 936 |
| 2nd year | 4,895 | 2,013 | 1,376 | 1,177 | 63 | 136 | 359 | 255 | 396 | 252 | 244 |
| 3rd year | 1,618 | 526 | 339 | 215 | 57 | 67 | 326 | 68 | 105 | 168 | 85 |
| 4th year (3) | 369 | - | 168 | 168 | - | - | - | - | 73 | 128 | - |
| Duration of studies | | | | | | | | | | | |
| 6 months to 1 year | 638 | - | 220 | - | 88 | 132 | - | - | 54 | - | 364 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| More than 1 up to 2 years | 8,591 | 5,089(4) | 2,473 | 1,962 | 398 | 113 | - | 337 | 509 | 20 | 163 |
| More than 2 up to 3 years | 3,183 | - | 798 | 100 | 463 | 235 | 1,151 | 263 | 358 | 137 | 476 |
| 4 years | 2,629 | - | 1,205 | 1,205 | - | - | - | - | 443 | 719 | 262 |
| Time of courses | | | | | | | | | | | |
| Day courses | 10,558 | 5,089 | 2,538 | 1,974 | 420 | 144 | 1,151 | 404 | 161 | 749 | 466 |
| Evening courses | 4,483 | - | 2,158 | 1,293 | 529 | 336 | - | 196 | 1,203 | 127 | 799 |
| Average hours per week | | | | | | | | | | | |
| 1-9 | 710 | - | 90 | - | - | 90 | - | 62 | 545 | - | 13 |
| 10-14 | 1,629 | - | 472 | 128 | 98 | 246 | 52 | 159 | 324 | 19 | 603 |
| 15-19 | 2,885 | - | 1,506 | 1,077 | 429 | - | 346 | 46 | 443 | 182 | 362 |
| 20-29 | 1,499 | - | 296 | 183 | 56 | 57 | 706 | 234 | 52 | 211 | - |
| 30 + | 8,318 | 5,089 | 2,332 | 1,879 | 366 | 87 | 47 | 99 | - | 464 | 287 |
| | | | | | Percentages | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Conditions of admission (1) | | | | | | | | | | | |
| Matriculation certificate | 53.0 | 85.1 | 12.0 | 14.8 | 2.5 | 11.9 | 10.9 | 84.1 | 63.9 | 77.4 | 70.8 |
| 12 years and entrance exams | 19.7 | - | 59.2 | 62.1 | 55.9 | 46.0 | 8.0 | 5.7 | - | - | 4.2 |
| 12 years without entrance exams | 26.0 | 14.9(2) | 28.0 | 23.1 | 37.7 | 42.1 | 81.1 | 10.2 | 36.1 | 6.3 | 23.2 |
| Other | 1.3 | - | 0.8 | - | 3.9 | - | - | - | - | 16.3 | 1.8 |
| Year of studies | | | | | | | | | | | |
| 1st year | 54.2 | 50.1 | 59.9 | 52.3 | 87.4 | 57.7 | 40.5 | 46.2 | 57.8 | 37.4 | 74.0 |
| 2nd year | 32.5 | 39.6 | 29.3 | 36.0 | 6.6 | 28.3 | 31.2 | 42.5 | 29.0 | 28.8 | 19.3 |
| 3rd year | 10.8 | 10.3 | 7.2 | 6.6 | 6.0 | 14.0 | 28.3 | 11.3 | 7.8 | 19.2 | 6.7 |
| 4th year (3) | 2.5 | - | 3.6 | 5.1 | - | - | - | - | 5.4 | 14.6 | - |
| Duration of studies | | | | | | | | | | | |
| 6 months to 1 year | 4.2 | - | 4.7 | - | 9.3 | 27.5 | - | - | 4.0 | - | 28.8 |
| More than 1 up to 2 years | 57.1 | 100.0(4) | 52.6 | 60.0 | 41.9 | 23.5 | - | 56.2 | 37.3 | 2.3 | 12.9 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| More than 2 up to 3 years | 21.2 | - | 17.0 | 3.1 | 48.8 | 49.0 | 100.0 | 43.8 | 26.2 | 15.6 | 37.6 |
| 4 years | 17.5 | - | 25.7 | 36.9 | - | - | - | - | 32.5 | 82.1 | 20.7 |
| **Time of courses** | | | | | | | | | | | |
| Day courses | 70.2 | 100.0 | 54.0 | 60.4 | 44.3 | 30.0 | 100.0 | 67.3 | 11.8 | 85.5 | 36.8 |
| Evening courses | 29.8 | - | 46.0 | 39.6 | 55.7 | 70.0 | - | 32.7 | 88.2 | 14.5 | 63.2 |
| **Average hours per week** | | | | | | | | | | | |
| 1-9 | 4.7 | - | 1.9 | - | - | 18.7 | - | 10.3 | 39.9 | - | 1.0 |
| 10-14 | 10.8 | - | 10.1 | 3.9 | 10.3 | 51.3 | 4.5 | 26.5 | 23.8 | 2.2 | 47.7 |
| 15-19 | 19.2 | - | 32.1 | 33.0 | 45.2 | - | 30.1 | 7.7 | 32.5 | 20.8 | 28.6 |
| 20-29 | 10.0 | - | 6.3 | 5.6 | 5.9 | 11.9 | 61.3 | 39.0 | 3.8 | 24.1 | - |
| 30 + | 55.3 | 100.0 | 49.6 | 57.5 | 38.6 | 18.1 | 4.1 | 16.5 | - | 52.9 | 22.7 |

(1) These are the formal requirements. In reality, among students in teachers colleges only 31% had matriculation; 23% passed part of the matriculation examinations and 22% received a governmental high-school certificate. Data on other students are not available.

(2) Students in the independent institutions where matriculation certificates are not required.

(3) Inclusive 121 in 5th year extention courses at the Academy of Music.

(4) Of which 500 students continue 3rd year.

The Central Bureau of Statistics
December 1970

Table 4 - Students of Teachers Colleges According to their High-School Education and Type of College
(Census of Students in Teachers Colleges 1971)

| Type of secondary education | Numbers | | | | Percentages | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | State | Religious | Independent (religious) | Total | State | Religious | Independent (religious) |
| Total | 5089 | 2978 | 1355 | 756 | 100.0 | 100.0 | 100.0 | 100.0 |
| Received matriculation certificates | 1566 | 1125 | 406 | 33 | 31.0 | 37.9 | 30.6 | 4.4 |
| Received governmental high-school certificates | 1099 | 590 | 407 | 102 | 21.7 | 19.9 | 30.5 | 13.5 |
| Took matriculation exams (1) | 1151 | 814 | 326 | 11 | 22.8 | 27.5 | 24.5 | 1.5 |
| Took no final exams - total | 1237 | 434 | 196 | 609 | 24.5 | 14.7 | 14.4 | 80.6 |
| Of these: completed 11 years | 375 | 50 | 63 | 260 | 7.4 | 1.8 | 4.7 | 34.4 |
| completed 12 years | 801 | 376 | 126 | 299 | 15.9 | 12.7 | 9.4 | 39.6 |
| Type of secondary education unknown | 36 | 15 | 20 | 1 | - | - | - | - |

(1) Including students which did not yet receive the results of their examinations as well as students who passed only part of their examinations.

Table 5 - Students in Teachers Colleges According to Type of Secondary Education, Year of Studies and Trend of Studies According to the Kind of College

| | Type of Secondary Education | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | Received matriculation certificates | Received governmental high-school certificates | Took matriculation exams (1) | Took no matriculation exams | | | Unknown |
| | | | | | Total | 11 years of study | 12 years of study | |
| | Absolute Numbers | | | | | | | |
| Total | 5,089 | 1,566 | 1,099 | 1,151 | 1,237 | 375 | 801 | 36 |
| Year of studies | | | | | | | | |
| 1st | 2,550 | 739 | 566 | 584 | 656 | 204 | 450 | 5 |
| 2nd | 2,013 | 567 | 479 | 453 | 488 | 123 | 306 | 26 |
| 3rd | 526 | 260 | 54 | 114 | 93 | 48 | 45 | 5 |
| Trend of studies | | | | | | | | |
| Kindergarten teachers - total | 758 | 51 | 311 | 134 | 259 | 80 | 175 | 3 |
| Of which: state | 383 | 32 | 178 | 90 | 81 | 12 | 67 | 2 |
| religious | 240 | 19 | 133 | 44 | 43 | 7 | 34 | 1 |
| Teachers for grades 1,2 - total | 400 | 109 | 89 | 121 | 81 | 6 | 74 | - |
| Of which: state | 364 | 105 | 60 | 120 | 79 | 6 | 72 | - |
| religious | 16 | 2 | 13 | - | 1 | - | 1 | - |
| Teachers for grades 3-6 - total | 1,525 | 384 | 249 | 335 | 551 | 189 | 314 | 6 |
| Of which: state | 712 | 276 | 100 | 230 | 102 | 25 | 77 | 4 |
| religious | 329 | 75 | 115 | 95 | 43 | 26 | 13 | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Junior high-schools teachers - total | 903 | 571 | 9 | 239 | 68 | - | 66 | 16 |
| Of which: state | 482 | 328 | 3 | 136 | 15 | 1 | 14 | - |
| religious | 421 | 243 | 6 | 103 | 53 | 1 | 52 | 16 |
| Vocational teachers - total | 1,503 | 451 | 441 | 322 | 278 | 100 | 172 | 11 |
| Of which: state | 1,037 | 384 | 249 | 238 | 157 | 6 | 146 | 9 |
| religious | 349 | 67 | 140 | 84 | 56 | 29 | 26 | 2 |
| | | | Percentages | | | | | |
| Total | 100.0 | 31.0 | 21.7 | 22.8 | 24.5 | 7.4 | 15.9 | |
| Year of Studies | | | | | | | | |
| 1st | 100.0 | 29.0 | 22.2 | 23.1 | 25.7 | 8.0 | 17.7 | |
| 2nd | 100.0 | 28.5 | 24.1 | 22.8 | 24.6 | 6.2 | 15.4 | |
| 3rd | 100.0 | 49.9 | 10.4 | 21.9 | 17.8 | 9.2 | 8.6 | |
| Trend of studies | | | | | | | | |
| Kindergarten teachers - total | 100.0 | 6.8 | 41.2 | 17.8 | 34.2 | 10.6 | 23.2 | |
| Of which: state | 100.0 | 8.4 | 46.7 | 23.7 | 21.2 | 3.1 | 17.6 | |
| religious | 100.0 | 8.0 | 55.6 | 18.5 | 17.9 | 2.9 | 14.2 | |
| Teachers for grades 1,2 - total | 100.0 | 27.3 | 22.2 | 30.3 | 20.2 | 1.5 | 18.5 | |
| Of which: state | 100.0 | 28.9 | 16.5 | 32.9 | 21.7 | 1.6 | 19.8 | |
| religious | (100.0) | 12.5 | 81.3 | - | 6.2 | - | 6.2 | |
| Teachers for grades 3-6 - total | 100.0 | 25.3 | 16.4 | 22.1 | 36.2 | 12.4 | 20.7 | |
| Of which: state | 100.0 | 39.0 | 14.1 | 32.4 | 14.5 | 3.5 | 10.9 | |
| religious | 100.0 | 23.6 | 35.3 | 29.1 | 12.0 | 8.0 | 4.0 | |
| Junior high-school teachers - total | 100.0 | 64.4 | 1.0 | 26.9 | 7.7 | - | 7.4 | |
| Of which: state | 100.0 | 68.0 | 0.6 | 28.3 | 3.1 | 0.2 | 2.9 | |
| religious | 100.0 | 60.0 | 1.5 | 25.5 | 13.0 | 0.2 | 12.8 | |
| Vocational teachers - total | 100.0 | 30.2 | 29.6 | 21.6 | 18.6 | 6.7 | 11.5 | |
| Of which: state | 100.0 | 37.4 | 24.2 | 23.2 | 15.2 | 0.6 | 14.2 | |
| religious | 100.0 | 19.3 | 40.3 | 24.3 | 16.1 | 8.4 | 7.5 | |

(1) See footnote 1 in Table 1.

Table 6 - Students in Teachers Colleges According to Type of Secondary Education and Trends of Training

| Trends of training | Total | Type of Secondary Education: Received matriculation certificates | Received governmental high-school certificates | Took matriculation exams (1) | Took no matriculation exams: Total | 11 years of study | 12 years of study | Unknown |
|---|---|---|---|---|---|---|---|---|
| | Absolute Numbers | | | | | | | |
| **Teachers for grades 3-6 and junior high-school** | | | | | | | | |
| Judaism | 598 | 277 | 24 | 96 | 183 | 1 | 133 | 18 |
| Science | 344 | 146 | 36 | 122 | 38 | 4 | 34 | 2 |
| Literature and language | 211 | 108 | 24 | 74 | 5 | - | 5 | - |
| English | 186 | 108 | 7 | 62 | 9 | 2 | 7 | - |
| Special education | 173 | 59 | 26 | 63 | 25 | 14 | 11 | - |
| **Special subjects** | | | | | | | | |
| Vocations | 482 | 79 | 206 | 72 | 123 | 68 | 51 | 2 |
| Physical education | 373 | 221 | 17 | 113 | 19 | 3 | 16 | 3 |
| Arts | 222 | 66 | 48 | 53 | 53 | 8 | 44 | 2 |
| Home economy | 179 | 12 | 104 | 29 | 34 | 14 | 20 | - |
| Music | 161 | 72 | 15 | 27 | 44 | 6 | 37 | 3 |

Percentages

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Teachers for grades 3-6 and junior high-school | | | | | | | |
| Judaism | 100.0 | 47.8 | 4.1 | 16.6 | 31.5 | 0.1 | 22.9 |
| Science | 100.0 | 42.7 | 10.5 | 35.7 | 11.1 | 1.2 | 9.9 |
| Literature and language | 100.0 | 51.2 | 11.4 | 35.1 | 2.3 | - | 2.3 |
| English | 100.0 | 58.1 | 3.8 | 33.3 | 4.8 | 1.1 | 3.7 |
| Special education | 100.0 | 34.1 | 15.0 | 36.4 | 14.5 | 8.1 | 6.4 |
| Special subjects | | | | | | | |
| Vocations | 100.0 | 16.5 | 42.9 | 15.0 | 25.6 | 14.2 | 10.6 |
| Physical education | 100.0 | 59.7 | 4.6 | 30.5 | 5.1 | 0.8 | 4.3 |
| Arts | 100.0 | 30.0 | 21.8 | 24.1 | 24.1 | 3.6 | 20.0 |
| Home economy | 100.0 | 6.7 | 58.1 | 16.2 | 19.0 | 7.8 | 11.2 |
| Music | 100.0 | 45.6 | 9.5 | 17.1 | 27.8 | 3.8 | 23.4 |

(1) See footnote (1) in Table 1.

Table 7 - Students in Post-Secondary Education According to Fields of Training, Year of Studies and Duration of Studies

| Year of studies and duration of studies | Total | Teachers training | Technical professions | | | | Nurses | Para-medical | Administration and accountancy | Arts | Other fields |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | Technical engineering | Technicians | Other | | | | | |
| | | | | | Absolute numbers | | | | | | |
| Total | 15,041 | 5,089 | 4,696 | 3,267 | 949 | 480 | 1,151 | 600 | 1,364 | 876 | 1,265 |
| Day courses - total | 10,558 | 5,089 | 2,538 | 1,974 | 420 | 144 | 1,151 | 404 | 161 | 749 | 466 |
| 6 months to 1 year | 223 | - | 105 | - | 88 | 17 | - | - | - | - | 118 |
| More than 1 up to 2 years(1) | 7,250 | 4,563 | 2,324 | 1,904 | 332 | 88 | - | 141 | 52 | 20 | 150 |
| More than 2 up to 3 years | 2,348 | 526 | 109 | 70 | - | 39 | 1,151 | 263 | - | 101 | 198 |
| 4 years | 737 | - | - | - | - | - | - | - | 109 | 628 | - |
| Evening courses - total | 4,483 | - | 2,158 | 1,293 | 529 | 336 | - | 196 | 1,203 | 127 | 799 |
| 6 months to 1 year | 415 | - | 115 | - | - | 115 | - | - | 54 | - | 246 |
| More than 1 up to 2 years | 815 | - | 149 | 58 | 66 | 25 | - | 196 | 457 | - | 13 |
| More than 2 up to 3 years | 1,361 | - | 689 | 30 | 463 | 196 | - | - | 358 | 36 | 278 |
| 4 years | 1,892 | - | 1,205 | 1,205 | - | - | - | - | 334 | 91 | 262 |
| | | | | | Percentages | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Day courses - total | 70.2 | 100.0 | 54.0 | 60.4 | 44.3 | 30.0 | 100.0 | 67.3 | 11.8 | 85.5 | 36.8 |
| 6 months to 1 year | 1.5 | - | 2.2 | - | 9.3 | 3.5 | - | - | - | - | 9.3 |
| More than 1 up to 2 years | 48.2 | 89.7 | 49.5 | 58.3 | 35.0 | 18.4 | - | 23.5 | 3.8 | 2.3 | 11.9 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| More than 2 up to 3 years | 15.6 | 10.3 | 2.3 | 2.1 | - | 8.1 | 100.0 | 43.8 | - | 11.5 | 15.6 |
| 4 years | 4.9 | - | - | - | - | - | - | - | 8.0 | 71.7 | - |
| Evening courses - total | 29.8 | - | 46.0 | 39.6 | 55.7 | 70.0 | - | 32.7 | 88.2 | 14.5 | 63.2 |
| 6 months up to 1 year | 2.8 | - | 2.4 | - | - | 24.0 | - | - | 4.0 | - | 19.4 |
| More than 1 up to 2 years | 5.4 | - | 3.2 | 1.8 | 7.0 | 5.2 | - | 32.7 | 33.5 | - | 1.0 |
| More than 2 up to 3 years | 9.0 | - | 14.7 | 0.9 | 48.7 | 40.8 | - | - | 26.2 | 4.1 | 22.1 |
| 4 years | 12.6 | - | 25.7 | 36.9 | - | - | - | - | 24.5 | 10.4 | 20.7 |

(1) Inclusive 799 students in vocational high-schools.

The Central Bureau of Statistics
December 1970

Post-Secondary Survey 1971

Table 8 - Students in Post-Secondary Education According to Fields of Training, Year of Studies and Average Hours per Week

| Year of studies and Average hours per week | Total | Teachers training | Technical professions | | | | Nurses | Para-medical | Administration and accountancy | Arts | Other fields |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total | Technical engineering | Technicians | Other | | | | | |
| | | | | | Absolute numbers | | | | | | |
| Total | 15,041 | 5,089 | 4,696 | 3,267 | 949 | 480 | 1,151 | 600 | 1,364 | 876 | 1,265 |
| Day courses - total | 10,558 | 5,089 | 2,538 | 1,974 | 420 | 144 | 1,151 | 404 | 161 | 749 | 466 |
| 1-19 hours | 968 | - | 31 | - | 31 | - | 398 | 141 | 109 | 110 | 179 |
| 20-29 hours | 1,272 | - | 175 | 95 | 23 | 57 | 706 | 164 | 52 | 175 | - |
| 30 + hours | 8,318 | 5,089 | 2,332 | 1,879 | 366 | 87 | 47 | 99 | - | 464 | 287 |
| Evening courses - total | 4,483 | - | 2,158 | 1,293 | 529 | 336 | - | 196 | 1,203 | 127 | 799 |
| 1-19 hours | 4,256 | - | 2,037 | 1,205 | 496 | 336 | - | 126 | 1,203 | 91 | 799 |
| 20-29 hours | 227 | - | 121 | 88 | 33 | - | - | 70 | - | 36 | - |
| | | | | | Percentages | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Day courses - total | 70.2 | 100.0 | 54.0 | 60.4 | 44.3 | 30.0 | 100.0 | 67.3 | 11.8 | 85.5 | 36.8 |
| 1-19 hours | 6.4 | - | 0.6 | - | 3.3 | - | 34.6 | 23.5 | 8.0 | 12.6 | 14.2 |
| 20-29 hours | 8.5 | - | 3.7 | 2.9 | 2.4 | 11.9 | 61.3 | 27.3 | 3.8 | 20.0 | - |
| 30 + hours | 55.3 | 100.0 | 49.7 | 57.5 | 38.6 | 18.1 | 4.1 | 16.5 | - | 52.9 | 22.6 |
| Evening courses - total | 29.8 | - | 46.0 | 39.6 | 55.7 | 70.0 | - | 32.7 | 88.2 | 14.5 | 63.2 |
| 1-19 hours | 28.3 | - | 43.4 | 36.9 | 52.5 | 70.0 | - | 21.0 | 88.2 | 10.4 | 63.2 |
| 20-29 hours | 1.5 | - | 2.6 | 2.7 | 3.5 | - | - | 11.7 | - | 4.1 | - |

Table 9 - Age-Group 18-34 of Jewish Population[1] According to Sex, Years of Studies and State of Studies[2] (Percentages[3])

| Years of studies | Total | | | | Men | | | Women | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Studying | Not studying | Rate of studying per 1000 in the population | Studying | Not studying | Rate of studying per 1000 in the population | Studying | Not studying | Rate of studying per 1000 in the population |
| | | Percentages | | | Percentages | | | Percentages | | |
| Total | 100.0 | 100.0 | 100.0 | 101 | 100.0 | 100.0 | 113 | 100.0 | 100.0 | 88 |
| Of which: 5-8 | 27.8 | (1.4) | 30.8 | (5) | (1.8) | 321 | (7) | (0.8) | 29.3 | (3) |
| 9-10 | 16.5 | (1.9) | 18.1 | (11) | (2.4) | 18.2 | (17) | (1.3) | 18.1 | (6) |
| 11-12 | 28.8 | 23.8 | 29.5 | 84 | 20.9 | 32.9 | 75 | 27.5 | 26.1 | 94 |
| 13-15 | 13.2 | 48.5 | 9.2 | 371 | 42.0 | 6.3 | 461 | 57.2 | 12.2 | 313 |
| 16 + | 5.7 | 24.1 | 3.6 | 429 | 32.4 | 4.5 | 481 | (13.0) | 2.7 | (317) |

(1) Of the age-group 35-44 in the Jewish population those "studying" constitute only 1% and 3/4 of the "studying" have 13 or more years of education.

(2) "Studying" - studied on the week of the Survey in a regular frame of studies, excluding short courses.

(3) Percentages in parentheses indicate a large sampling error.

Table 10 - Age-Group 18-34 of Jewish Population[1] According to Age and Sex, Continent of Birth and State of Studies

I - Absolute Numbers (in thousands)

| Continent of birth | Total | | | | Men | | | Women | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Studying | Not studying | Rate of studying per 1000 in the population | Studying | Not studying | Rate of studying per 1000 in the population | Studying | Not studying | Rate of studying per 1000 in the population |
| Total | 615.7 | 62.1 | 553.6 | - | 35.3 | 277.3 | - | 26.8 | 276.3 | - |
| Born in Israel - total | 234.1 | 37.9 | 196.2 | - | 20.3 | 99.0 | - | 17.6 | 97.2 | - |
| Father born in Israel | 34.6 | 5.2 | 29.4 | - | (3.4) | 14.8 | - | (1.9) | 14.6 | - |
| Father born in Asia-Africa | 54.8 | (4.4) | 50.4 | - | (1.9) | 24.5 | - | (2.6) | 25.8 | - |
| Father born in Europe-America | 144.7 | 28.3 | 116.4 | - | 15.0 | 59.7 | - | 13.1 | 56.8 | - |
| Born in Asia-Africa | 256.2 | 9.0 | 247.2 | - | 5.7 | 123.9 | - | (3.3) | 123.3 | - |
| Born in Europe-America | 125.4 | 15.2 | 110.2 | - | 9.3 | 54.4 | - | 5.9 | 55.8 | - |
| **Percentages and Rates** | | | | | | | | | | |
| Total | 100.0 | 100.0 | 100.0 | 101 | 100.0 | 100.0 | 113 | 100.0 | 100.0 | 88.0 |
| Born in Israel - total | 38.0 | 61.1 | 35.5 | 162 | 57.5 | 35.7 | 170 | 65.7 | 35.2 | 153 |
| Father born in Israel | 5.6 | 8.4 | 5.3 | 151 | (9.5) | 5.3 | (185) | (6.9) | 5.3 | (113) |
| Father born in Asia-Africa | 8.9 | (7.3) | 9.1 | (81) | (5.4) | 8.9 | (71) | (9.6) | 9.4 | (90) |
| Father born in Europe-America | 23.5 | 45.4 | 21.1 | 105 | 42.6 | 21.5 | 201 | 49.2 | 20.5 | 188 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Born in Asia-Africa | 41.6 | 14.5 | 44.6 | 35 | 16.3 | 44.7 | 44 | (12.2) | 44.6 | (26) |
| Born in Europe-America | 20.4 | 24.4 | 19.9 | 121 | 26.2 | 19.6 | 145 | 22.1 | 20.2 | 96 |

(1) See footnotes 1,2,3 in Table 9.

Among the "studying" in the age-group 35-44 in the Jewish population, about 78% come from Europe-America (including Israeli born whose fathers come from Europe or America).

The Central Bureau of Statistics
March 1971

Table 11 - Data and Forecast of the Age-Group 20-24 in the Jewish Population According to Origin[1]

(in thousands)

| | 1965 | 1970 | 1975 | 1980 | 1985 |
|---|---|---|---|---|---|
| Westerners | 73 | 143 | 129 | 118 | 124 |
| Orientals | 89 | 110 | 144 | 147 | 150 |
| Total | 162 | 253 | 273 | 265 | 274 |

(1) Here westerners (Europe-America) include Israeli born whose father are westerners or Israeli born; orientals (Africa-Asia) include Israeli born whose father is oriental. The forecast was calculated from the existing demographic data, and assuming a yearly immigration of 5000 orientals and 20,000 westerners.

## APPENDIX II

מכון ויצמן למדע
THE WEIZMANN INSTITUTE OF SCIENCE
REHOVOT · ISRAEL רחובות · ישראל

December 29, 1970

His Excellency
Minister of Education and Culture
Chairman of the Council for Higher Education
Jerusalem.

Your Excellency,

In your letter of October 10, 1970 you requested that the Committee on Post-Secondary Education should submit to you by the end of December its conclusions and proposals on the subject of colleges as a form of education which leads partly or fully to an academic degree. The following are the preliminary recommendations of the Committee.

We shall start with some basic data which, though not necessarily accurate in detail, describe in general the place of post-secondary education in the Israeli education system. The data were collected by our adviser, Mr. M. Egozi.

Post-secondary education is divided among about 140 institutions, supported by government offices and by public bodies such as municipalities, ORT, Hadassa, the Histadrut Sick Fund, etc. The government allocation amounts to about IL. 26 million of which the Ministry of Education shares IL. 18.5 million, the Ministry of Labour IL. 4.5 million and other ministries about IL. 3 million. According to a rough estimate, the total of expenditure for post-secondary education amounts to about IL. 40-50 million per annum.

There are at present, 16,000 students in post-secondary education. Of these about 6,000 in teachers colleges; about 6,000 in various technical schools; 1,600 in nursing and para-medical schools; 700 in art schools and about 1,700 in other institutions. Only about 25% of these students have matriculation certificates. Out of 50,000 in the age-group of 18, about 20,000 get 12 years of education. Of these, about 10,000 pass the matriculation examinations, and of these about 8,000 are admitted to universities, and about 1,000 join post-secondary schools. In addition about 1,000 graduate vocational high-schools, and their number is expected to increase.

Some data about higher education: the allocation of the government and the Jewish Agency to the 1970 running budget of higher education, amounted to IL. 200 million (about 70% of the yearly budget); government allocation for development was about IL. 40 million. The number of students in academic education is about 40,000 (i.e., about 2,5 times larger than that of post-secondary education) of which about 11,000 are first year students. The

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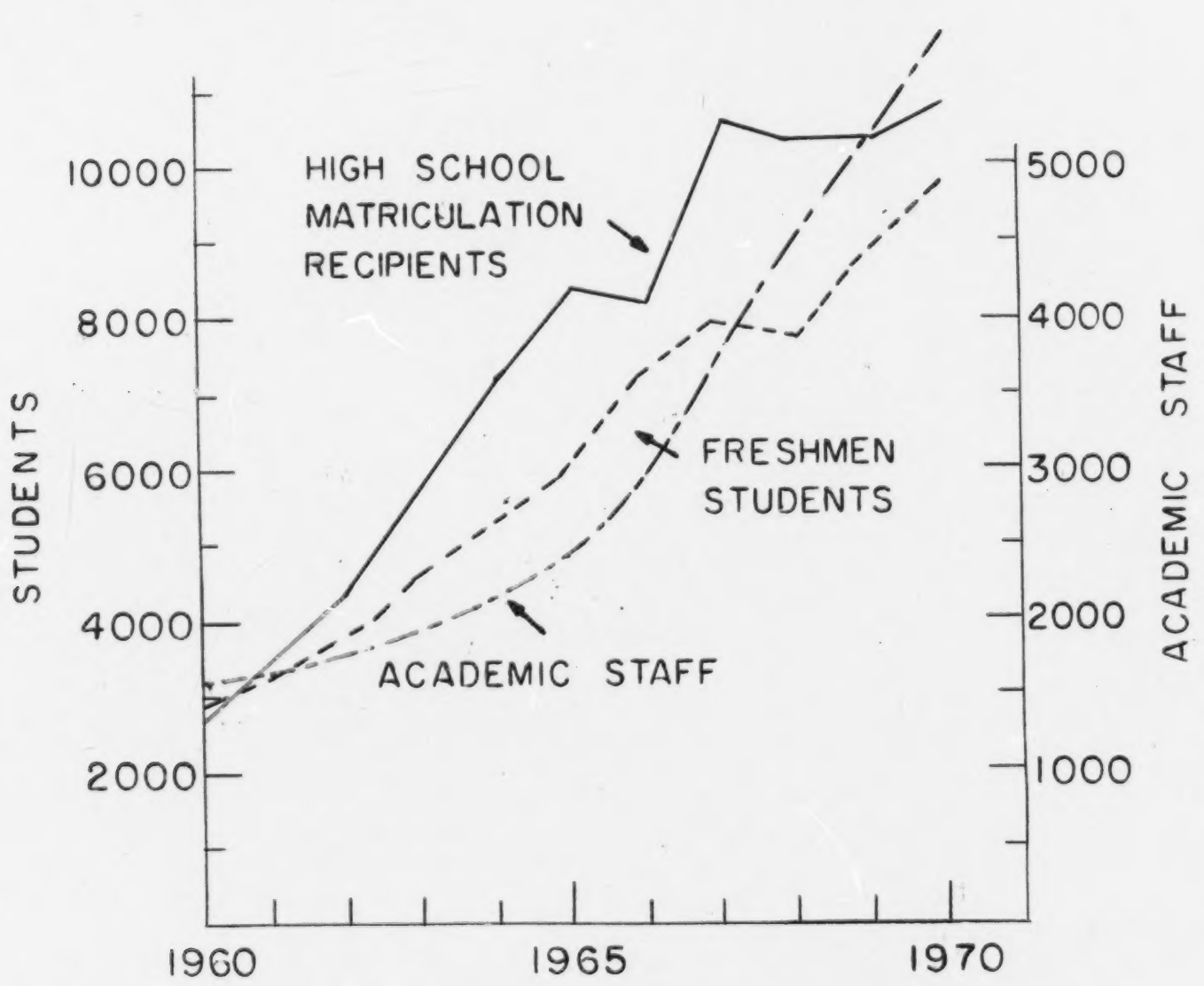
difference between this number and the number of 8,000 graduates with matriculation quoted above, is due to foreign students and various other sources.

In the sixties there was a very steep growth in higher education, partly caused by demographic factors which brought a parallel increase among high school graduates. This is clearly seen in the diagram based on data taken from the annals of the Central Bureau of Statistics. In the seventies no significant growth in the population of higher education is expected, by demographic factors. Any such growth must depend on change in quality of high school education, immigration and foreign students, and on the tendency of elder adults to seek higher education.




A number of important implications derive from the above information.

1. Post-secondary education is largely isolated from higher education at present. The main reason is, that most of post-secondary students have no matriculation certificates, and higher education is, therefore, out of their reach. Moreover, there is no accreditation for those post-secondary students with matriculation certificates who wish to transfer to academic institutions. This fact reduces the attraction for post-secondary education, and consequently also lowers the average level of students. It creates disproportionality in the pressures for the acquisition of higher education versus post-secondary one. We consider this situation as undesirable and recommend the establishment of a system of accreditation and of partial academic recognition in certain types of post-secondary education, applicable for students with matriculation certificates or equivalent achievements, whose level is above the average. Such a system requires some changes in curriculum and teaching methods, and also separate evaluation for each institution. Such an evaluation should be done by the Council for Higher Education. We hope to submit later more detailed recommendations on the subject.

2. 80% of the high school students population who graduated with matriculation certificates continue their way to universities. Students are admitted with average matriculation grades of 6 and even 5,8 out of 10. The extensive admission of high school graduates to institutions of higher learning leave a limited reserve for post-secondary education, unless the latter can compete successfully by raising its level of education and by being authorized to endow equivalent degrees.

There is a mistake impression in the Israeli public as if a lot of prospective students are refused by institutes of higher learning due to lack of space. This is only true for such disciplines as medicine, some engineering faculties and few others. With respect to some of these disciplines the national interest coinsides with the demand for admission, as demand for academic man-power already exists in such fields, and is also expected for the future. A partial solution to such problems may be obtained through the development of a national network of colleges (see paragraph 4).

3. There exists a population of students who did not finish high school with matriculation and who are eager to acquire post-secondary and even higher education. This population is varied in many respects, but has in common the eagerness for continued education on the one hand, and the national interest to encourge it and develop ways and means to satisfy it, on the other hand.

The Kibbutz movement plays a particular role in this respect. Pressures are mounting there among the young generation, and even among the elder one, for the acquisition for the post-secondary and higher education. As opposed to these pressures, there exists the interest of the Kibbutz to

maintain its integrity and keep the young generation at home. The regional colleges may be of great help to solve this problem. For the success of this solution it is necessary to secure an appropriate level and accreditation to such colleges. It should be noted that the adult population of the Kibbutz alone is too small to be the sole source of students to regional colleges.

The oriental communities, and the towns and districts situated far away from the population centers, contain the bulk of the youth for whom post-secondary and higher education is inaccessible, because of economic, social and geographic reasons. It is essential to examine the learning potential of this population and find the appropriate ways to exploit it. It should be noted that the recent expansion of vocational secondary education all over the country is an important contribution in this direction.

4. The regional college constitutes an appropriate solution to the problems raised in the previous section. Being an intellectual source for the region's population, it should act as a stabilizing factor in the social, education and cultural sense. Moreover, the establishment of colleges may offer a better solution to the problems of many students, whose background, talents and inclinations fit college better than university education.

The teaching courses in these colleges should be suited partly to the particular needs of the region, partly to general adult education at various levels, partly to remedial courses on a high school level in preparation for post-secondary education, partly to a post-secondary education leading to a semi-academic college degree, and partly to a full undergraduate academic education.

The Committee believes that the task of establishing stable, high level, regional colleges is beyond the capacity of the Kibbutzim and the regional councils. Similarly we believe that in the long run, colleges should build their future neither on guest lecturers from the universities nor on formal patronage and academic supervision by institutes of higher learning.

The Committee considers, therefore, the idea of establishing a national network regional colleges, headed by a national senate to be appointed by the Council for Higher Education.

In order to secure the highest possible level of education, and to help develop a local teaching staff suitable to the college needs, it is recommended to establish within the above network a center for developing

post-secondary and academic teaching, such as the Amos de-Shalit Science Education Center. Its task would be the developing of curricula and learning methods for colleges, including methods of using the mass-media - the post, radio and television.

The Committee hopes to submit more detailed proposals on the subject of regional colleges and the application of mass-media at a later stage.

Yours sincerely,

(signed)

Shneior Lifson
Chairman of the Committee
on Post-Secondary Education

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THE WEIZMANN INSTITUTE OF SCIENCE
REHOVOT · ISRAEL רחובות · ישראל

March 31, 1971

# Experimental Program for the Establishment of an Open University in Israel

## Introduction

In the intermediate report of the 29th December, 1970, the Committee on Post-Secondary Education proposed the setting up of a national network of regional colleges, as its considered view on a major area included in the terms of reference. One of the effect of these colleges would be the provision of a complete academic education leading to a first degree. The Committee noted that "it does not believe that the establishment of permanent regional colleges at an appropriate educational level, is a task which the kibbutzim or local councils can fulfill by themselves". The Committee suggested "the establishment of a center for the development of post-secondary and academic education; the work of the center would be to develop programs of study and means of teaching for the use of the colleges, including ways of using the mass communications media post, radio and television". In order to fulfill these ideas and to provide more detail in the field of academic education, the Committee proposes to examine the ways of establishing an Open University based on the model of the Open University in Britain, which with the cooperation of the network of colleges proposed will provide a higher education at the level of B.A. to students in all parts of the country. As a first stage, the Committee proposes to begin, as scon as possible, with tuition in the fields of the natural sciences and mathematics (with the addition of courses in social sciences and education), for teachers at the intermediate and upper level

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of secondary education since in these subjects, the gap between the supply and demand of teachers is the largest. The Open University in Britain began teaching in 1971 after a preparation period of two years. Its activities are built on the following didactic methods:

1. Written tuition by postal correspondence. The student receives learning material in weekly units including specially written correspondence text, instruction booklets, questionaires, tests etc. His written work is marked and connected on by correspondence tutors.
2. Weekly radio and television broadcasts are integrated with the written material to make a general educational whole.
3. There is a network of study centers spread throughout the country, so that almost all students are associated with study centers in the regions in which they live. In the study center the students meet in groups; each group has a class tutor who assists the students by individual guidance and various class activities such as lectures, talks, etc.
4. Similarly, the University supplies the student with individual laboratories (home experimental kits) in subjects such as the natural sciences, in which laboratory work must be an integral part of the process of study. Similarly mathematics courses all include the use of computers; terminals, usually cited in the study centers, are connected to central computers using the national telephone network.
5. The Open University holds summer schools at which the students of each course come together in large groups for periods of a week at the campus of one of the existing universities. The summer schools concentrate on tutorial work and offer aspects of the course which may be dealt with best in a residential and concentrated situation using, for example, the libraries and other services of the host university.

The following proposal is based upon the British Open University model, but it ought to be pointed out that, if and when a start is made on detailed planning, it will be necessary to examine in detail the possibilities of integrating other didactic techniques in the work of the university and the need to keep abreast of the new ideas and methods in these fields which are being developed continually in other countries of Europe and America.

There follows the proposal in general terms:

(a) The objective

(i) To experiment with Open University methods and to investigate the possibility of their satisfying the demand for higher education which exists at different levels of the Israeli population, whose entry to ordinary universities is bindered by social, economic and geographical obstacles, whilst putting the emphasis on the working population and the border and development areas.

(ii) To provide an academic education at first degree (B.A.) level by the methods of the Open University in order to fulfill the special needs of society and the economy in Israel and, especially, the need, of those who teach subjects like mathematics and the natural sciences, in which there is a shortage of teachers at the intermediate and upper levels of secondary education.

(iii) To assist the regional and communal colleges which are in existence, and those which will be established, to integrate under graduate academic teaching of a high standard into their programs.

(b) The subjects

The suggested subjects for the first stage are directed to the teaching of mathematics and the natural sciences (physics, chemistry and biology) to B.A. level. The program in these subjects will include two foundation courses, seven courses at the second level and eight courses at the third level. The program will also contain a foundation

course in social sciences and a course in educational problems. Studies leading to the degree of B.A. will comprise six courses; two basic courses, two or more courses at the second level and the remaining courses at the third level. The course in social sciences is designed to give the student choice of two out of the three foundation courses: mathematics, the natural and social sciences. The course in educational problems is designed for students who are teachers, or preparing to teach.

At the second stage, it would be desirable to try to broaden the instruction by additional subjects for which there is a sufficient demand among the potential public of students, and for which there is a sufficient public and economic interest to warrant their inclusion in the Open University program. Two such fields appear suitable for attention at an early date, both per se and on account of their interdisciplinary connection with the natural sciences and mathematics:

(i) Technology; with special attention to those branches of technology whose contribution to the development of the country's economy is greatest.

(ii) Social sciences, with special attention to economics, public administration and specific Israeli problems.

Planning for the broadening of the circular in the second stage will take place during the execution of the first stage.

It would also be advisable to include instruction in basic English as an auxiliary aid in the teaching of the Open University, to the extent that the students will be able to use English text-books during their studies and thereafter.

(c) <u>The candidates</u>

The University will be open, in principle, to whom ever is interested in studying in it. On the other hand, candidates whose education is not sufficient to enable them to tackle the foundation

courses successfully, will have to go through some form of preparation before they can be accepted as students in the Open University. In order to sort the candidates, the Open University will give all candidates who have no matriculation certificate an entrance examination. The examination will be designed to test the potential capability of the candidate to tackle the foundation courses without failing. Those who do not pass the examination will be directed to courses designed to complete secondary education. For those who require assistance in order to enter the foundation courses, such assistance will be given within the frame work of the regional colleges or by methods of communication similar to those of the Open University.

(d) Level of studies

Notwithstanding the fact that the University is open also to students whose prior preparation is not equal to that required by ordinary universities, the level of studies and the requirements for the degree of B.A. will be at a level which will not be lower than, and in some respects, will even attempt to exceed, the accepted level in ordinary universities. The foundation courses will be constructed bearing in mind the limitations of the potential student, and will also be designed to prepare the student for the ever increasing demand of the courses at levels two and three. The fact that all study programs and means of introduction are open to inspection and careful examination, guarantees the possibility of testing to what extent the commitment to a high academic standard has been fulfilled in practice.

Ministry of Education and Culture
The Council for Higher Education

From the Summary of the 3rd Council Meeting No. 18 (46)
May 4, 1971

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The discussion of the interim report of the "Lifson Committee"

A. The following main points were brought up in the discussion:

(1) General policy with respect to post-secondary and adult education; the basic right and eagerness for education, either for its own sake or for a definite purpose; the danger of an "inverted pyramide" of educational levels; the geographic dispersion of learning opportunities as an aid to population dispersion; encouragement of adult education in border settlements, provincial areas and particularly in oriental communities.

(2) The nature of a college as different from the common university; comprehensive versus professional institutions; securing the appropriate staff for college teaching. Will colleges reach the goals assigned to them?

(3) The Open (everyman's) University as an institute mainly for undergraduate education for those who either do not wish or cannot attend universities; the advantage of bringing academic education to the student's home and of self-teaching against the disadvantage of lack of personal contact between teacher and student; the usefulness of Open University methods for in-service training of teachers toward a first academic degree. The necessity to examine the financial and educational projections of such methods.

(4) Whether both colleges and Open University or only one of the two systems.

(5) The need for a "National Senate" to take care of the academic standards of colleges as a whole or to supervise only that part of college intended for academic education; National Senate vis-a-vis academic patronage of an academic institution; is the term "Senate" appropriate?

(6) Whether to adopt all three recommendations of the "Lifson Committee" simultaneouly, or to begin with one limited program.

(7) The Council's authority to discuss and decide on matters related to colleges.

B. In conclusion of the deliberations, and after the Council decided that it is authorized to discuss matters related to colleges, it was agreed:

The Council approves in principle the interim recommendations of the "Lifson Committee" on the following subjects:

a) Establishment of regional and community colleges as well as teachers colleges and colleges for other disciplines.
b) Establishment by the Council and on its behalf of a "National Center for Colleges". This is not constructed to exclude the possibility of academic patronage by a recognized institute of higher learning, all according to the law.
c) An experimental program for an Open University.

The Council requests the "Lifson Committee" to discuss with the Council's Chairman steps to be taken in order to put into practice such a program.

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July 22, 1971

His Excellency
The Minister of Education and Culture
Mr. Igal Alon
Jerusalem.

Your Excellency,

The following is the summary of the discussions of the Committee of the Post-Secondary Education in its meeting of June 8, 1971 on the subject of "The Colleges and the National Center".

1. Colleges. The Committee recognizes the raison d'être of post-secondary schools and colleges engaged in a single discipline such as education, technology etc. It recommends, nevertheless, the comphrehensive college which comprises in addition to such schools also academic undergraduate courses as well as programs of adult education for its own sake, as a preferred approach to the development of regional and community colleges. Such colleges, besides the special functions they fulfill, may serve as cultural and intellectual centers for the region. Furthermore, the accumulation of all types of education under one roof and one leadership, offers many possibilities beyond the reach of small separate institutes with narrow interests.

2. Post-Secondary Institutions. The Committee suggests to distinguish between the concepts of college and post-secondary school. An institute will carry the title "College" if at least part of its courses will be recognized by the Council for Higher Education as leading partly or fully to an academic degree. The college activities in the field of professional or general education not leading to an academic degree will be carried out through "Schools Affiliated to the College".

3. The National Center for Colleges and Post-Secondary Schools. The Committee suggests that the National Center should be responsible both for colleges and post-secondary institutions.

3-a. The Functions of the Center. The Committee proposes the following outline for the functions of the Center:

1. Determination of a development policy including geographic distribution of colleges, distribution of financial resources, order of priorities of disciplines and goals.

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2. Supervision and the establishment of standards and procedures regarding academic appointments.

3. Recommendations to the Council for Higher Education regarding partial or full recognition of academic courses.

4. Development of programs and teaching aids in the service of colleges and post-secondary institutions.

3-b. The Composition of the Center.

1. Members of the Center will be appointed by the Council for Higher Education on the recommendation of the Minister of Education and Culture. The appointment is personal. The Committee makes no recommendations regarding the appointment of the Center's Chairman, except to state that the Committee considers the status of the Chairman as a key to the success of the Center.

2. The number of the members of the Center should be 20-25.

3. To make the Center representative of the various factors, it is recommended that about one third of its members should be of a senior academic status, some of them members of the Council; one third should be persons active in post-secondary and college education; and one third should be public personalities associated or interested in the subject of college and post-secondary education.

4. The Committee proposes that the Center, upon its establishment should discuss and prepare more detailed recommendations regarding its functions, authority and modes of operation. These recommendations should be submitted to the Council for Higher Education.

The proposal to introduce external academic examinations in Israel, has also been brought up for discussion. The Committee did not consider itself competent to elaborate on this subject.

Sincerely yours,

(signed)

Shneior Lifson

c.c. Mr. S. Bendor, Secretary
of the Council for Higher
Education

Members and Advisers of the Committee
on Post-Secondary Education